Upper Las Positas Creek Restoration and Storm Water Management Project

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INTRODUCTION

The City of Santa Barbara converted five acres of asphalt, manicured turf, and degraded creek habitat into diverse wetlands, bioswales, and stormwater ponds that improve water quality and environmental stewardship, reduce pesticide and irrigation use, and recharge groundwater. **This sustainable storm water project retains and treats four million gallons of urban runoff**, features over 12,000 native plants, and included over 1,500 students in planting and educational activities.

The Upper Las Positas Creek Restoration Project also reduces peak 100-year flood flows by half (278 ft.3/second reduced to 142 ft.3/second). The storm water basins created for the project also retain enough urban runoff to create wildlife habitat wetlands that have persisted through one of the worst droughts in California's modern history.

The project was built on a municipal golf course and an elementary school. These two land uses are ubiquitous throughout California and the project has elements that are scalable and can be replicated at other sites.

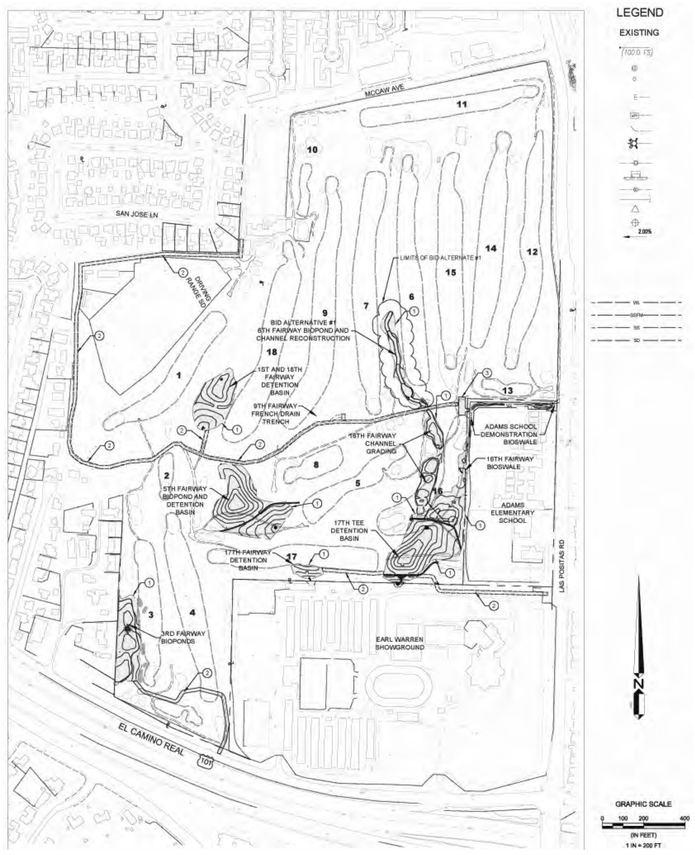
BACKGROUND

The mission of the City of Santa Barbara's Creeks Restoration and Water Quality Improvement Division (Creeks Division) is to improve creek and ocean water quality and restore natural creek systems through stormwater and urban runoff pollution reduction, creek restoration, and community education programs.

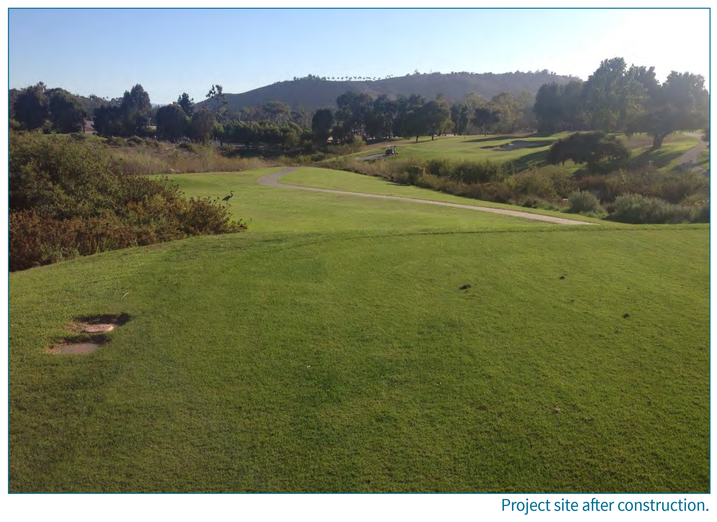
The Creeks Division implemented the Upper Las Positas Creek Restoration and Storm Water Management Project at the Santa Barbara Golf Club (a municipal golf course) in 2010 to reduce the amount of urban runoff and restore native habitat.

PROJECT STATISTICS

- 5 Acres
- 200 Acre Drainage Area
- 15,000 Locally-Native Plants
- 2 Storm Water Detention Basins
- 2 Retention Ponds (4 million gallon total capacity)
- 1 Offline Wetland Pond
- 15 Constructed Wetland Pools
- 2,600 Feet of Bioswale
- 1 Elementary School Rain Garden
- 4 Acres of Turf Removed & Converted to Wildlife Habitat
- 465 Feet of Directionally Bored 18" Storm Drain to Divert Urban Runoff to the Project



Project site during construction.



Project site after construction.

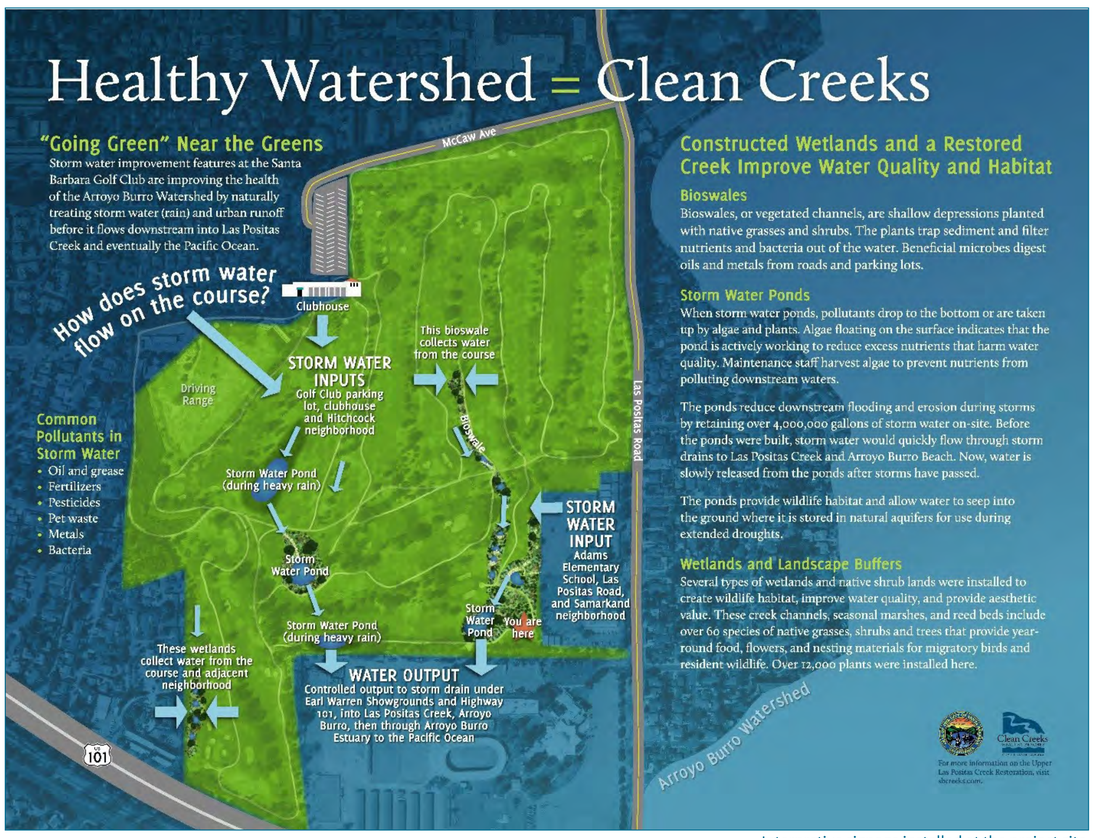
PROJECT COMPONENTS

Storm Water Reuse: The project captures, treats, and retains over four million gallons of storm water through a series of bioswales, restored creek channel, off-line wetlands, and storm water detention and retention ponds. The captured urban runoff is retained and used for wildlife habitat, an aesthetic amenity for the golf course, and a learning laboratory for Adams Elementary School.

Water Conservation: The areas that are now storm water retention basins, seasonal wetlands, and restored upland habitat were all formerly manicured turf that required a minimum of twice-weekly irrigation and weekly mowing when they were part of the municipal golf course turf area. **Approximately four acres of turf was removed and replaced with drought-tolerant native plants**.

Groundwater Recharge: Two large storm water retention ponds feature native soil bottoms that allow captured storm water to infiltrate. Unlike typical golf course water features, these ponds don't include rubber liners, concrete, or bentonite amendments. Captured storm water is allowed to freely infiltrate and replenish the aquifer.

Flood Reduction: The project was also modeled to reduce 100-year flood flows by 50%, thereby limiting downstream flooding and water quality impacts caused by erosion, high load discharges, and nuisance flows during the dry season. Notably, **the project retains nearly all storm water inputs up to about a 2" event**. The project's large storm water retention basins include mechanical controls to drain the basins before predicted heavy rains, thereby increasing holding capacity.



Interpretive signage installed at the project site.

FOR MORE INFORMATION

Scan the QR Code at left to view our **February 2015** *Inside Santa Barbara* television segment on the Upper Las Positas Creek Restoration and Storm Water Management Project, or visit **http://bit.ly/ulpcsb**.

Scan the QR Code at right to view our **October 2011** *Inside Santa Barbara* television segment on the Upper Las Positas Creek Restoration and Storm Water Management Project, or visit **http://bit.ly/ulpcsb2**.

PROJECT TEAM

Concept Design Firm:
WRC Consulting Services, Inc.
Santa Ana, CA
www.wrcinc.net/index.htm

Final Design Firm:
Wallace Group
San Luis Obispo, CA
www.wallacegroup.us

Construction & Landscape Installation:
Shaw Contracting, Inc.
Carpinteria, CA

Acacia Landscaping
Santa Barbara, CA

Maintenance and Operations:
City of Santa Barbara Creeks Division
www.sbcreeks.com

Landscape Maintenance Firms:
Enviroscaping
Goleta, CA
www.enviroscapinginc.net

Acorn Landscape Management Company
Santa Barbara, CA
www.santabarbaralandscapeservice.com

PROJECT FUNDING

This project was funded by the State Water Resources Control Board, the Southern California Wetlands Recovery Project, and the City of Santa Barbara.

Visit www.sbcreeks.com to learn more about the City of Santa Barbara Creeks Division
Contact Cameron Benson at CBenson@SantaBarbaraCA.gov or (805) 897-2508